What Is Claimed Is:

1   1.   A system for capacity management, comprising:

2   a first capacity reserved for a first device design in a

3   first capacity management cycle;

4   a second capacity reserved for a second device design

5   having a pull-in demand in a second capacity

6   management cycle after the first capacity management

7   cycle; and

8   a processing unit to exchange the first capacity and the

9   second capacity, wherein the processing unit directs

10   the first capacity to meet the second device design

11   and the second capacity to meet the first device

12   design.

1   2.   The system of claim 1 further comprising a production

2   line to manufacture the second device design using the first

3   capacity after the first capacity management cycle.

1   3.   The system of claim 2 wherein the production line

2   further manufactures the first device design using the second

3   capacity after the second capacity management cycle.

1   4.   The system of claim 1 wherein the processing unit

2   further checks whether the first capacity reserved for the first

3   device design is sufficient for the second capacity reserved for

4   the second device design.

1   5.   The system of claim 1 further comprising a reservation

2   unit for reserving capacity in the first and second capacity

3   management cycles.

1   6.   The system of claim 5 wherein the first capacity is

2   reserved by a first client and the second capacity is reserved

3   by a second client.

1   7.   A method for capacity management, comprising the

2   steps of:

3   exchanging a first capacity reserved for a first device

4   design in a first capacity management cycle with a

5   second capacity reserved for a second device design

6   in a second capacity management cycle after the first

7   capacity management cycle, in which the second device

8   design has a pull-in demand;

9   such that the first capacity meets the second device

10   design and the second capacity meets the first device

11   design.

1   8. The method of claim 7 further comprising

2   manufacturing the second device design using the first capacity

3   after the first capacity management cycle.

1   9. The method of claim 8 further comprising

2   manufacturing the first device design using the second capacity

3   after the second capacity management cycle.

1   10. The method of claim 7 further comprising checking

2   whether the first capacity reserved for the first device design

3   is sufficient for the second capacity reserved for the second

4   device design.

1   11. The method of claim 7 further comprising reserving

2 capacity in the first and second capacity management cycles for

3 the first and second device designs respectively.

1   12. The method of claim 11 wherein the first capacity is

2 reserved by a first client and the second capacity is reserved

3 by a second client.

1   13. A machine-readable storage medium storing a computer

2 program which when executed causes a computer to perform a method

3 for capacity management, the method comprising the steps of:

4   exchanging a first capacity reserved for a first device

5   design in a first capacity management cycle with a

6   second capacity reserved for a second device design

7   in a second capacity management cycle after the first

8   capacity management cycle, in which the second device

9   design has a pull-in demand,

10   such that the first capacity meets the second device

11   design and the second capacity meets the first device

12   design.

1   14.   The storage medium of claim 13 wherein the method

2   further comprises a step of manufacturing the second device

3   design using the first capacity after the first capacity

4   management cycle.

1   15.   The storage medium of claim 14 wherein the method

2   further comprises a step of manufacturing the first device

3   design using the second capacity after the second capacity

4   management cycle.

1   16.   The storage medium of claim 13 wherein the method

2   further comprises a step of checking whether the first capacity

3   reserved for the first device design is sufficient for the second

4   capacity reserved for the second device design.

1   17.   The storage medium of claim 13 wherein the method

2   further comprises a step of reserving capacity in the first and

3   second capacity management cycles for the first and second

4   device designs respectively.

1   18.   The storage medium of claim 17 wherein the first

2   capacity is reserved by a first client and the second capacity

3   is reserved by a second client.

1   19.   A capacity trading system, comprising:

2   a user interface to receive a capacity release request and

3   a pull-in demand, in which the capacity release

4   request comprises a first capacity reserved in a

5   first capacity management cycle;

6   a processing unit coupled to the user interface to receive

7   the capacity release request and the pull-in demand,

8   and release the first capacity to meet the pull-in

9   demand; and

10   an accounting unit to generate a bill for the pull-in

11   demand.

1   20.   The system of claim 19 further comprising a production

2   line to manufacture products for the pull-in demand using the

3   first capacity after the first capacity management cycle.

1   21.   The system of claim 19 wherein the processing unit

2   further checks whether the first capacity is sufficient for the

3   pull-in demand.

1   22.   The system of claim 19 further comprising a

2   reservation unit to reserve a second capacity for a device design

3   corresponding to the first capacity in a second capacity

4   management cycle behind the first capacity management cycle when

5   the first capacity is released.

1   23.   The system of claim 22 further comprising a production

2   line to manufacture products for the device design using the

3   second capacity after the second capacity management cycle.

1   24.   The system of claim 19 wherein the capacity release

2   request is received from a first client and the pull-in demand

3   is received from a second client via a network, in which

4   information of the first and second clients is kept confidential

5   by the capacity trading system.

1   25.   The system of claim 24 wherein the accounting unit

2   further transmits the bill to the second client.

1   26.   The system of claim 24 wherein the accounting unit

2   further calculates a discount for the products of the first

3   client.

1   27.   The system of claim 24 wherein the processing unit

2   further transmits a notification to the first client, in which

3   the notification comprises cycle time of the second capacity

4   management cycle and completion date for the products of the

5   first client.

1   28.   The system of claim 24 wherein the processing unit

2   further defines a capacity push-out ratio for the first client,

3   and the first capacity follows accordingly.

1   29.   The system of claim 22 wherein the second capacity is

2   originally reserved for the pull-in demand.

1   30.   A capacity trading method, comprising the steps of:

2   receiving a capacity release request, in which the capacity

3   release request comprises a first capacity reserved

4   in a first capacity management cycle;

5   receiving a pull-in demand;

6   releasing the first capacity to meet the pull-in demand;

7   and

8   generating a bill for the pull-in demand.

1   31. The   method   of   claim   30   further   comprising

2   manufacturing products for the pull-in demand using the first

3   capacity after the first capacity management cycle.

1   32. The method of claim 30 further comprising checking

2   whether the first capacity is sufficient for the pull-in demand.

1   33. The method of claim 30 further comprising reserving

2   a second capacity for a device design corresponding to the first

3   capacity in a second capacity management cycle after the first

4   capacity management cycle when the first capacity is released.

1   34. The   method   of   claim   33   further   comprising

2   manufacturing products for the device design using the second

3   capacity after the second capacity management cycle.

1   35. The method of claim 30 wherein the capacity release

2   request is received from a first client and the pull-in demand

3   is received from a second client via a network, in which

4   information of the first and second clients is kept

5   confidential.

1   36. The method of claim 35 further comprising

2   transmitting the bill to the second client.

1   37. The method of claim 35 further comprising calculating

2   a discount for the products of the first client.

1   38. The method of claim 35 further comprising

2   transmitting a notification to the first client, in which the

3   notification comprises cycle time of the second capacity

4   management cycle and completion date for the products of the

5   first client.

1   39. The method of claim 35 further comprising defining a

2   capacity push-out ratio for the first client, and the first

3   capacity follows accordingly.

1   40. The method of claim 33 wherein the second capacity is

2   originally reserved for the pull-in demand.

1   41.   A machine-readable storage medium storing a computer

2   program which when executed causes a computer to perform a

3   capacity trading method, the method comprising the steps of:

4   receiving a capacity release request and a pull-in demand,

5   in which the capacity release request comprises a

6   first capacity reserved in a first capacity

7   management cycle;

8   releasing the first capacity to meet the pull-in demand;

9   and

10   generating a bill for the pull-in demand.

1   42.   The storage medium of claim 41 wherein the method

2   further comprises a step of manufacturing products for the

3   pull-in demand using the first capacity after the first capacity

4   management cycle.

1   43.   The storage medium of claim 41 wherein the method

2   further comprises a step of checking whether the first capacity

3   is sufficient for the pull-in demand.

1   44. The storage medium of claim 41 wherein the method

2 further comprises a step of reserving a second capacity for a

3 device design corresponding to the first capacity in a second

4 capacity management cycle behind the first capacity management

5 cycle when the first capacity is released.

1   45. The storage medium of claim 44 wherein the method

2 further comprises a step of manufacturing products for the

3 device design using the second capacity after the second

4 capacity management cycle.

1   46. The storage medium of claim 41 wherein the capacity

2 release request is received from a first client and the pull-in

3 demand is received from a second client via a network, in which

4 information of the first and second clients is kept

5 confidential.

1   47. The storage medium of claim 46 wherein the method

2 further comprises a step of transmitting the bill to the second

3 client.

1   48. The storage medium of claim 46 wherein the method

2   further comprises a step of calculating a discount for the

3   products of the first client.

1   49. The storage medium of claim 46 wherein the method

2   further comprises a step of transmitting a notification to the

3   first client, in which the notification comprises cycle time of

4   the second capacity management cycle and completion date for the

5   products of the first client.

1   50. The storage medium of claim 46 wherein the method

2   further comprises a step of defining a capacity push-out ratio

3   for the first client, and the first capacity follows

4   accordingly.

1   51. The storage medium of claim 44 wherein the second

2   capacity is originally reserved for the pull-in demand.

1   52. A method for capacity management, comprising the

2   steps of:

3   receiving a capacity release request, in which the capacity

4   release request comprises a first capacity reserved

5   in a first capacity management cycle;

6   receiving a pull-in demand; and

7   releasing the first capacity to meet the pull-in demand.

1   53. The method of claim 52 further comprising checking

2 whether the first capacity is sufficient for the pull-in demand.

1   54. The method of claim 52 further comprising reserving

2 a second capacity for a device design corresponding to the first

3 capacity in a second capacity management cycle behind the first

4 capacity management cycle when the first capacity is released.

1   55. A machine-readable storage medium storing a computer

2 program which when executed causes a computer to perform a

3 capacity management method, the method comprising the steps of:

4   receiving a capacity release request, in which the capacity

5   release request comprises a first capacity reserved

6   in a first capacity management cycle;

7   receiving a pull-in demand; and

8   releasing the first capacity to meet the pull-in demand.

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1   56. The storage medium of claim 55 wherein the method

2 further comprises a step of checking whether the first capacity

3 is sufficient for the pull-in demand.

1   57. The storage medium of claim 55 wherein the method

2 further comprises a step of reserving a second capacity for a

3 device design corresponding to the first capacity in a second

4 capacity management cycle behind the first capacity management

5 cycle when the first capacity is released.